



Fireman

Only one answer sheet is included in the NRTC. Reproduce the required number of sheets you need or get answer sheets from your ESO or designated officer.

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FIREMAN

NAVEDTRA 82001

Prepared by the Naval Education and Training Program Management
Support Activity, Pensacola, Florida

Congratulations! By enrolling in this course, you have demonstrated a desire to improve yourself and the Navy. Remember, however, this self-study course is only one part of the total Navy training program. Practical experience, schools, selected reading, and your desire to succeed are also necessary to successfully round out a fully meaningful training program. You have taken an important step in self-improvement. Keep up the good work.

HOW TO COMPLETE THIS COURSE SUCCESSFULLY

ERRATA: If an errata comes with this course, make all indicated changes or corrections before you start any assignment. Do not change or correct the Training Manual (TRAMAN) or assignments in any other way.

TEXTBOOK ASSIGNMENTS: The TRAMAN for this course is Fireman. NAVEDTRA 12001. The TRAMAN pages that you are to study are listed at the beginning of each assignment. Study these pages carefully before attempting to answer the questions in the course. Pay close attention to tables and illustrations because they contain information that will help you understand the text. Read the learning objectives provided at the beginning of each chapter or topic in the text and/or preceding each set of questions in the course. Learning objectives state what you should be able to do after studying the material. Answering the questions correctly helps you accomplish the objectives.

BLACK DOT INFORMATION: Black dots (●) may be used in the text and correspondence course to emphasize important or supplemental information and to highlight instructions for answering certain questions. Read these black dot entries carefully; they will help you answer the questions and understand the material.

SELECTING YOUR ANSWERS: After studying the TRAMAN, you should be ready to answer the questions in the assignment. Read each question carefully, then select the BEST answer. Be sure to select your answer from the subject matter in the TRAMAN. You may refer freely to the TRAMAN and seek advice and information from others on problems that

may arise in the course. However, the answers must be the result of your own work and decisions. You are prohibited from referring to or copying the answers of others and from giving answers to anyone else taking the same course. Failure to follow these rules can result in suspension from the course and disciplinary action.

SUBMITTING COMPLETED ANSWER SHEETS : Complete all assignments as quickly as possible to derive maximum benefit from the course. As a minimum, you must submit at least one assignment per month. This is a requirement established by the Chief of Naval Education and Training. Failure to meet this requirement could result in disenrollment from the course.

TYPES OF ANSWER SHEETS: If you are a U.S. Navy enlisted member on active duty or a drilling U.S. Naval Reserve enlisted member, you should use the answer sheet attached at the end of this course and follow the instructions in section A below. If you are an enlisted U.S. Naval Reserve member who is not attached to a drilling unit or if you are an officer, a civilian, or a member of the U.S. Army, Air Force, Marine Corps, or Coast Guard, you should use the Automatic Data Processing (ADP) answer sheets included in the course package and follow the instructions in section B.

A. Manually Scored Answer Sheets

If you are a U.S. Navy enlisted member on active duty or attached to a U.S. Naval Reserve drilling unit, your course will be administered by your local command. You must use the answer sheet designed for manual scoring, NETPSA form 1430/5, Stock

Ordering Number 0502-LP-216-0100. You may get a supply of the forms from your ESO or you may reproduce the one in the back of this course booklet. DO NOT USE THIS FORM FOR COURSES ADMINISTERED BY NETPMSA.

Recording Information on the Manually Scored Answer Sheets: As you complete each assignment, submit the completed answer sheet to your local educational services officer (ESO) for grading. You may submit more than one answer sheet at a time. Remember, you must submit at least one assignment each month.

Grading: Your ESO will grade each answer sheet and notify you of any incorrect answers. The passing score for each assignment is 3.2. If you receive less than 3.2 on any assignment, the ESO will list the questions you answered incorrectly and give you a pink answer sheet marked RESUBMIT. You must redo the assignment and complete the RESUBMIT answer sheet. The maximum score you can receive for a resubmitted assignment is 3.2.

Course Completion: After you have submitted all the answer sheets and have earned at least 3.2 on each assignment, your command should give you credit for this course by making the appropriate entry on Page 4 of your service record.

Student Questions: If you have questions concerning the administration of this course, consult your local ESO.

B. ADP Answer Sheets

If you are an enlisted U.S. Naval Reserve member who is not attached to a drilling reserve unit or if you are an officer, a civilian, or a member of the U.S. Army, Air Force, Marine Corps, or Coast Guard, you should use the ADP answer sheets provided in your course package. You should use one blank original ADP answer sheet for each assignment. Use only the original ADP answer sheet provided in your course package, NETPMSA will not accept reproductions.

Recording Information on the ADP Answer Sheets: Carefully follow the MARKING INSTRUCTIONS on each answer sheet. Be sure that blocks 1, 2, and 3 are filled in correctly. This information identifies you (the student), the course, and the

assignment; it must be correct for NETPMSA to process your course and give you credit for your work.

Because your ADP answer sheets will not be returned to you, be sure to mark your answers in the course booklet as you are working the course. Whenever you complete an assignment, transfer your answers from the course booklet to the ADP answer sheet.

Mailing the Completed ADP Answer Sheets: Upon completing an assignment, mail the completed answer sheet to:

Commanding Officer
Naval Education and Training
Program Management Support
Activity
Pensacola, FL 32559-5000

Use envelopes to mail your answer sheets. You must provide your own envelopes or request them from your local educational services officer (ESO). You may enclose more than one answer sheet in a single envelope. Remember, regardless of how many answer sheets you submit at a time, NETPMSA should receive at least one assignment a month.

NOTE : DO NOT USE THE COURSE COMMENTS PAGE AS AN ENVELOPE FOR RETURNING ANSWER SHEETS OR OTHER COURSE MATERIALS.

Grading: NETPMSA will grade the answer sheets and notify you by letter concerning your grade for each assignment, your incorrect answers, and your final grade. The passing score for each assignment is 3.2. If you receive less than 3.2 on any assignment, you must rework the assignment. NETPMSA will enclose a new ADP answer sheet in the letter notifying you of the questions you answered incorrectly. You will be required to redo the assignment and resubmit the new answer sheet. The maximum score you can receive for a resubmitted assignment is 3.2.

Course Completion: When you complete the last assignment, fill out the Course Completion form in the back of the course and enclose it with your last answer sheet. NETPMSA will issue you a letter certifying that you satisfactorily completed the course. You should make sure that

credit for the course is recorded in your service record. YOU MAY RETAIN THE TEXT.

NOTE : YOUR OFFICIAL COURSE COMPLETION DATE WILL BE THE DATE YOUR LAST ASSIGNMENT IS PROCESSED THROUGH NETPMSA'S ADP SYSTEM--NOT THE DATE YOU DEPOSIT THE LAST ASSIGNMENT IN THE MAIL. This is especially important if you are taking the course for Naval Reserve retirement credit. You must mail your answer sheets at least 60 days before your anniversary date. This will provide you with enough time for delays in the mail or reworking failed assignments. DO NOT MAIL YOUR ASSIGNMENTS TO THE NAVAL RESERVE PERSONNEL COMMAND (NRPC).

Student Questions: If you have questions concerning this course, notify NETPMSA by mail (use the address on page ii) or by telephone: DSN 922-1366 or commercial (904) 452-1366.

NAVAL RESERVE RETIREMENT CREDIT

If you are a member of the Naval Reserve, you will receive retirement points if you are authorized to receive them under current directives governing retirement of Naval Reserve personnel. For the purpose of Naval Reserve retirement, this edition of the course is evaluated at 9 points. These points will be credited to you upon your satisfactory completion of the entire course.

NOTE : YOUR OFFICIAL COURSE COMPLETION DATE WILL BE THE DATE YOUR LAST ASSIGNMENT IS PROCESSED THROUGH NETPMSA'S ADP SYSTEM--NOT THE DATE YOU DEPOSIT THE LAST ASSIGNMENT IN THE MAIL. Refer to the Course Completion paragraph under section B. ADP Answer Sheets.

COURSE OBJECTIVES

By successfully completing this nonresident training course, you will demonstrate mastery of the following subject areas: engineering administration, and engineering fundamentals, the basic steam cycle, boilers, steam turbines, gas turbines, internal-combustion engines, ship propulsion, auxiliary machinery and equipment, instruments, shipboard electrical equipment, and environmental controls.

Naval courses may include several types of questions—multiple-choice, true-false, matching, etc. The questions are not grouped by type but by subject matter. They are presented in the same general sequence as the textbook material upon which they are based. This presentation is designed to preserve continuity of thought, permitting step-by-step development of ideas. Not all courses use all of the types of questions available. The student can readily identify the type of each question, and the action required, by inspection of the samples given below.

MULTIPLE-CHOICE QUESTIONS

Each question contains several alternatives, one of which provides the best answer to the question. Select the best alternative, and blacken the appropriate box on the answer sheet.

SAMPLE

- s-1. Who was the first person appointed Secretary of Defense under the National Security Act of 1947?

1. George Marshall
2. James Forrestal
3. Chester Nimitz
4. William Halsey

Indicate in this way on the answer sheet:

	1	2	3	4	
	T	F			
s-1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- - -

TRUE-FALSE QUESTIONS

Mark each statement true or false as indicated below. If any part of the statement is false the statement is to be considered false. Make the decision, and blacken the appropriate box on the answer sheet.

SAMPLE

- s-2. All naval officers are authorized to correspond officially with any systems command of the Department of the Navy without their respective commanding officer's endorsement.

1. True
2. False

Indicate in this way on the answer sheet:

	1	2	3	4	
	T	F			
s-2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- - -

MATCHING QUESTIONS

Each set of questions consists of two columns, each listing words, phrases or sentences. The task is to select the item in column B which is the best match for the item in column A that is being considered. Items in column B may be used once, more than once, or not at all. Specific instructions are given with each set of questions. Select the numbers identifying the answers and blacken the appropriate boxes on the answer sheet.

SAMPLE

In questions s-3 through s-6, match the name of the shipboard officer in column A by selecting from column B the name of the department in which the officer functions. Some responses maybe used once, more than once, or not at all.

A. OFFICER

B. DEPARTMENT

indicate in this way on the answer sheet:

- | | |
|-------------------------------|---------------------------|
| s-3. Damage Control Assistant | 1. Operations Department |
| s-4. CIC Officer | 2. Engineering Department |
| s-5. Disbursing Officer | 3. Supply Department |
| s-6. Communications Officer | |

	1	2	3	4	
	T	F			
s-3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- - -
s-4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- - -
s-5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	- - -
s-6	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	- - -

A S S I G N M E N T 1

Textbook Assignment: "Engineering Administration," Chapter 1, pages 1-2 through 1-23.

IN ANSWERING QUESTIONS 1-1 THROUGH 1-7, SELECT FROM COLUMN B THE ENGINEERING DEPARTMENT OFFICERS RESPONSIBLE FOR THE DUTIES IN COLUMN A. RESPONSES FROM COLUMN B MAY BE USED MORE THAN ONE TIME.

<u>A. DUTIES</u>	<u>B. OFFICERS</u>
1-1. Directs the division through work center supervisors	1. Engineer officer 2. Training officer
1-2. Responsible for the completion of all repairs within the capacity of the shops in the engineering department	3. Electrician officer 4. Division officer
1-3. Administers and executes the ship's electrical safety program	
1-4. Responsible for developing a department training program in support of the training objectives of the ship	
1-5. Responsible for the operation, care, and maintenance of all propulsion and auxiliary machinery	
1-6. Maintains the department's training records and training reports	
1-7. Assigns watches and duties within the division	

1-8. The three main assistants to the engineer officer are the main propulsion assistant, the electrical officer, and the

1. damage control assistant
2. training officer
3. division chief petty officer
4. small boat engineer

1-9. Which of the following personnel is responsible for screening the engineering department's incoming correspondence and initiating the required action?

1. The administrative assistant
2. The training officer
3. The damage control assistant
4. The division chief petty officer

1-10. A list of all Navy schools and their requirements can be found in which of the following publication?

1. NSTM, chapter 541
2. NAVEDTRA 10120-J
3. NAVEDTRA 10500
4. NAVEDTRA 10054-F

1-11. The duties and responsibilities of the gas-free engineer are described in what chapter of the Naval Ships' Technical Manual?

1. 221
2. 074
3. 262
4. 504

1-12. What division operates the boilers and fireroom auxiliary machinery?

1. B division
2. M division
3. E division
4. R division

1-13. What division is responsible for keeping the ship watertight?

1. A division
2. B division
3. M division
4. R division

1-14. On steam-driven ships, the oil and water king is either a BT or a/an

1. ML
2. MM
3. EM
4. IC

1-15. What instruction describes the 3-M Systems in detail?

1. OPNAVINST 5100.20-C
2. SECNAVINST 5215.1C
3. OPNAVINST 3120.32B
4. OPNAVINST 4790.4

1-16. What rating is responsible for making wooden, plastic, plaster, and metal patterns?

1. MR
2. IM
3. OM
4. PM

1-17. What is OPNAVINST 5100.19?

1. The 3-M Manual
2. The SORM
3. The NSTM
4. Navy Safety Precautions for Forces Afloat

1-18. Firemen, Enginemen, or Machinist's Mates are detailed as boat engineers from what division?

1. B division
2. A division
3. M division
4. R division

1-19. Which of the following ratings is responsible for operating, maintaining, and repairing reciprocating engines?

1. EN
2. IC
3. MR
4. OM

1-20. What officer is responsible for the safety of the entire command?

1. The engineering officer of the watch
2. The engineer officer
3. The executive officer
4. The commanding officer

1-21. DANGER tags are what color?

1. Orange
2. Black
3. Red
4. Yellow

1-22. CAUTION tags are what color?

1. Green
2. Yellow
3. Red
4. Purple

1-23. OUT-OF-CALIBRATION labels are what color?

1. Orange
2. Red
3. Yellow
4. Brown

1-24. OUT-OF-COMMISSION labels are what color?

1. Orange
2. Yellow
3. White
4. Red

1-25. When a Ship is in port, an audit of the tag-out log should be conducted by the EDO at least how often?

1. Every week
2. Every 2 weeks
3. Every 3 weeks
4. Every month

- 1-26. When a ship is in the yards, an audit of the tag-out log should be conducted by the EDO at least how often?
1. Every week
 2. Every 2 weeks
 3. Every 3 weeks
 4. Every month
- 1-27. The EOSS was developed by which of the following commands?
1. OPNAV
 2. NMPC
 3. NAVSEA
 4. CNET
- 1-28. The EOSS involves the participation of which of the following personnel?
1. Department heads only
 2. Watch standers only
 3. Enginemen only
 4. All personnel from the department head to the watch stander
- 1-29. The EOSS was designed for which of the following purposes?
1. To improve the operational readiness of the ship's engineering plant
 2. To increase operational efficiency and provide better engineering plant control
 3. To reduce operational casualties and extend equipment life
 4. All of the above
- 1-30. The EOSS is composed of which of the following parts?
1. The User's Guide
 2. The engineering operational procedures
 3. The engineering operational casualty control
 4. All of the above
- 1-31. The administrative organization for all types of ships is prescribed in which of the following instruction?
1. OPNAVINST 5100.23B
 2. OPNAVINST 3120.32B
 3. OPNAVINST 4790.4B
 4. SECNAVINST 5216.5C
- 1-32. The ultimate responsibility for organization of the officers and crew of a ship belongs to which of the following officers?
1. The administrative officer
 2. The engineer officer
 3. The executive officer
 4. The commanding officer
- 1-33. Which of the following ratings is responsible for operating, maintaining, and repairing gyrocompasses, alarms, and voice interior communication systems?
1. EM
 2. EN
 3. IC
 4. IM
- 1-34. The GS rating is divided into how many groups?
1. One
 2. Two
 3. Three
 4. Four
- 1-35. Which of the following ratings is responsible for performing preventive and corrective maintenance on Navy timepieces?
1. IM
 2. IC
 3. EM
 4. OM

IN ANSWERING QUESTIONS 1-36 THROUGH 1-42, SELECT FROM COLUMN B THE PERSONNEL RESPONSIBLE FOR THE DUTIES IN COLUMN A. RESPONSES FROM COLUMN B MAY BE USED MORE THAN ONE TIME.

<u>A. DUTIES</u>	<u>B. PERSONNEL RESPONSIBLE</u>
1-36. Assists the division officer in coordinating and administering the division	1. Damage control assistant 2. Administrative assistant 3. Main propulsion assistant
1-37. Functions as an aid to the engineer officer in the details of administration	4. Division CPO
1-38. Responsible for control of the ship's stability, list, and trim	
1-39. In charge of the A and R division shops	
1-40. Responsible for the preparation and care of the Engineering Log and Engineer's Bell Book	
1-41. Responsible for the care, stowage, and use of fuels and lubricating oils	
1-42. Supervises the maintenance of department records and maintains a tickler file on all required reports	

- 1-43. The planned maintenance system was established for which of the following purposes?
1. To describe the methods and tools to be used on a job
 2. To plan and schedule maintenance tasks
 3. To estimate and evaluate material readiness
 4. All of the above
- 1-44. What is the primary objective of the Ships' 3-M Systems?
1. To provide for managing maintenance and maintenance support in a way to ensure maximum equipment operational readiness
 2. To ensure that hazardous conditions do not exist in a working area
 3. To ensure 100% availability of all shipboard systems
 4. To ensure that all ships are properly manned with the appropriate ratings
- 1-45. The use of DANGER or CAUTION tags is NOT a substitute for other safety measures, such as locking valves or pulling fuses.
1. True
 2. False
- 1-46. Normally, which of the following personnel fills out and signs the record sheet and prepares the tags?
1. The commanding officer
 2. The executive officer
 3. The petty officer in charge of the work
 4. The engineer officer
- 1-47. What type of tag or label is used to prohibit the operation of equipment that could jeopardize the safety of personnel or endanger equipment?
1. A red DANGER tag
 2. A yellow CAUTION tag
 3. An OUT-OF-CALIBRATION label
 4. An OUT-OF-COMMISSION label

1-48. As a Fireman, you will NOT be required to stand watches in engineering spaces.

1. True
2. False

1-49. Which of the following watches is in charge of the main propulsion plant and associated auxiliaries?

1. The throttle watch
2. The EOOW
3. The DCC watch
4. The cold-iron watch

1-50. A burnerman is responsible for all EXCEPT which of the following duties?

1. Cutting burners in and out as directed by the BTOW
2. Changing atomizers when authorized by the BTOW
3. Lighting fires or cutting in additional burners
4. Changing the speed of the ship's propellers

1-51. Which of the following watches constantly checks the pressures, temperatures, vacuum, and salt content of the distilled water aboard the ship?

1. The evaporator watch
2. The shaft alley watch
3. The cold-iron watch
4. The messenger of the watch

1-52. Who is responsible for preparing the watch, quarter, and station bill for a division?

1. The commanding officer
2. The executive officer
3. The command duty officer
4. The division officer

IN ANSWERING QUESTIONS 1-53 THROUGH 1-58, SELECT FROM COLUMN B THE ENGINEERING WATCHES RESPONSIBLE FOR THE DUTIES IN COLUMN A. RESPONSES FROM COLUMN B MAY BE USED MORE THAN ONE TIME.

<u>A. DUTIES</u>	<u>B. ENGINEERING WATCHES</u>
1-53. Checks all sea valves after working hours when the ship is in dry dock	1. Throttle watch 2. Sounding and security watch 3. Messenger of the watch
1-54. Usually assigned as the sound-powered telephone talker when the ship is undergoing close maneuvering conditions with other ships, entering or leaving port, or refueling or replenishing from another ship	4. Cold-iron watch
1-55. Functions as the ship's first line of defense in maintaining watertight integrity while on watch	
1-56. Complies with orders from the bridge concerning the movement of the ship's propellers	
1-57. Primary mission is to look for fire and flooding hazards	
1-58. Ensures that weights, such as fuel oil or feedwater, are NOT shifted without permission of the engineer officer or DCA	

1-59. Which of the following publications will provide you with information about the watch, quarter, and station bill?

1. Naval Ships' Technical Manual, chapter 541
2. Catalog of Training Courses
3. Basic Military Requirements
4. The Advancement Handbook for Petty Officers

1-60. You will generally find which of the following information on the watch, quarter, and station bill?

1. Watch assignments for each person under various conditions of readiness
2. The station and job each person will have in emergency situations
3. A listing of each person as to billet number, locker number, bunk number, compartment number, name, rating, and rate
4. All of the above